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AUTHOR Garrott, Carl L.
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ABSTRACT

Two studies investigated the intrinsic and contextual difficulties of English spelling for native Haitian Creole-speaking children (NHCSs), and the effect of phonemic awareness on the achievement on beginning spellers. Each study had 20 NHCS kindergarten children as subjects. In the first, the subjects were trained in English phonemics (blending, isolation, segmentation, deletion), then tested for phonemic awareness. Results showed the children made errors in increasing order of severity in segmentation, deletion, blending, and isolation, and made significant errors in cluster onsets and cluster coda. The second study had an experimental group of 10 students and a control group of similar size. The experimental group was trained in the same aspects of phonemics and also in pronunciation of syllables illustrating onset rime, vowel coda, cluster onset, and cluster coda, incorporating instruction addressing error patterns found in the first study. Results indicated a significant experimental effect of phonemic training on students' spelling. Recommendations for further research are offered. A 32-item bibliography is included. (MSE)

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PHONEMICS WITHIN THE TRANSITIONAL BILINGUAL PROGRAM: FROM HAITIAN CREOLE TO ENGLISH

by

Carl L. Garrott

Division of Modern Languages
Chowan College
Murfreesboro, NC 27855
3 January 1996

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PHONEMICS WITHIN THE TRANSITIONAL BILINGUAL PROGRAM:
FROM HAITIAN CREOLE TO ENGLISH

Introduction.

Current and emerging programs in bilingual education represent a significant development over the centralized pressures toward complete Anglo homogeneity. Those groups who gained status used to be those most able to closely approximate and imitate the Anglo model, and maintain an organized community. Court ordered desegregation of schools, ESEA Title VII, the Bilingual Education Act and Lau vs. Nichols ushered American society into the issue, bilingual education (Clair, 1994; Teitelbaum and Hiller, 1977). Cultural pluralism began to reject both racism and the melting pot metaphor. The melting pot image of the United States became the salad metaphor in which each ethnic group was distinct and valued, bound together with a common dressing, American culture (Seelye, 1975).

It is obvious that the United States encompasses a rich diversity of languages and dialects. The population of this nation is becoming increasingly multilingual or multidialectal (Gollnick, 1992). In addition, Nieto (1992) explains that our diversity in language and culture is not a liability, but an enrichment. Yet, there is also a consistent pattern of lower performance in American schools by a few immigrant groups whose

language is not English. Seelye and Wasilewski (1981) identify six insights into non-English-speaking students: (1) immigrant students may fail because they do not know enough English to understand the classroom learning environment; (2) removing students from the regular classroom may cause failure in subject-matter courses; (3) students suffer alienation from the ethnic group by assimilating English; (4) success in the ethnic group does not always transfer to majority cultures; (5) many majority students lack empathy toward other ethnic groups and languages; and (6) some immigrant ethnic groups prefer work over education. Schuhmann (1992) reiterates that minority cultures may obligate its members to sacrifice education for family or oblige females to home and children.

The Haitian immigrant exhibits some of the aforementioned insights as well as the complication of color and history. Although hundreds of thousands of Haitians have emigrated to the United States since the 1960s, the pressure on Miami and New York has been phenomenal, culturally and linguistically. These immigrants bring a particular Afro-French method of organizing and processing their environment. Each Haitian has learned the subtle distinction of class and color, and the discriminatory environment this distinction presents here in the United States. Conversely, every Haitian also inherits from Haiti's history social and political behaviors of the Black and Mulatto, the bourgeoisie and poor masses. Each

Haitian exists as a product of his or her social condition, environment, economic condition, religion and language (Paquin, 1983). In relation to language, every Haitian detects the nuances between the French of the elite and the Creole of the masses. Every Haitian speaks Creole despite a powerful French-speaking minority. Furthermore, in spite of the prestigious position of the French language, Creole remains the heart and soul of the Haitian people, an Afro-French byproduct of the plantation society and slavery (Fleischmann, 1987). In Haiti bilingualism remains an unrealizable goal because of the almost impossible transition from rural to urban life, past repressive regimes, an exclusive and conservative bourgeoisie, cycles of poverty and the lack of strategic educational and language planning (Fombrun, 1989; Hurbon, 1987; Métraux, 1959; Paquin, 1983; Pierre-Charles, 1988). Fortunately, American scholars prefer a more activist view of bilingualism that goes beyond sensitivity and interpersonal skills. Programmatic choices for language minorities, transitional bilingual education (TBE), ESL and structured immersion predominate choices. Haitian students enter English-language courses in which they are immersed in comprehensible English, taught academic subjects in English or instructed in Creole for several years, and required to make a full transition to English (Clair, 1994). It is recommended that students' home language remain engaged positively in the classroom to control latent constructs of motivation and self-worth (Arends, 1991, p. 131).

Statement of the Problem.

Instructors aim to give L2 learners the ability to communicate with native speakers of English; however, learning to read, speak and write English presents problems in applied contrastive analyssis. The instructor may investigate phoneme-grapheme mapping in both languages, or at least, he or she must discover errors experienced by L2 learners and thus proceed to a corpus of predictive techniques suitable for Creole-speakers. Phoneme-grapheme analysis of English reveal difficult points for Creole-speakers:

1. Children experience problems mapping /ɛ/ and e because /ɛ/ sounds like /æ/ and /e/, normally spelled as a (Treiman, 1993).
2. The phoneme-grapheme mapping wh becomes /h/, /hw/ or /wh/ according to etymology.
3. Th may be /ð/ or /θ/ according to etymology.
4. The grapheme a allows several phonemes according to etymology: /ae/, /a/, /e/, /ɔ/ or /ə/.
5. The grapheme e often becomes /ə/, /ɛ/ or /i/.
6. The grapheme i permits three variants: /ai/, /ɪ/ and /ə/.
7. The grapheme o represents /o/, /ɔ/, /ɑ/, /ə/.
8. The digraph oo maps from phonemes /U/ and /u/.
9. The grapheme u represents /ʌ/ as in but,
   /iu/ as in use and
   /ə/ as in focus.

The English language also exhibits a strong tendency to centralize

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vowels by moving the point of articulation toward the middle of the oral cavity, that is, vowel sounds become /ə/. Vowels also tend to diphthongize by raising the tongue toward /j/ after an oral vowel: /aj/, /ej/, /ou/, /ɯu/, /ij/. On the other hand consonants /p/, /t/ and /k/ tend to be aspirated; several consonants exhibit assimilation or a change in phonemic nature (absorb > /ɐbzɔrb/ or / ɐpsɔrb/(Dansereau, 1990). The adoption of French words from 1066 to the present, Greek and Latin terms in literature, philosophy and science, Germanic loan-words, Anglo-Saxon lexicon and morphology, Hispanic borrowings from Spain and Latin America, Italianisms in art, literature, music and numerous neologisms complicate and govern English phonology and orthography that learners must master.

Grapheme-phoneme mapping perplexes English-speakers; immigrant Haitians must also discover segmentations of component phonemes under more bewildering conditions. Haitian Creole presents eight simple vowels /a/, /e/, /ɛ/, /i/, /o/, /ɔ/, and /w/, three basic nasal vowels /ã/, /ɛ̃/, /õ/, and twenty consonants. Haitian Creole shares with English many of the same obstruants and resonants with some differences: /p/ and /t/ require less aspiration, the phoneme /θ/, as in <u>thick</u>, does not appear in Creole, yet Creole possesses /ʤ/ and /ʧ/ (Jeanty, n.d.).

Numerous studies have been informative about the intrinsic and context difficulties in learning to spell English by native-speakers. Stage and Wagner (1992) and Treiman (1993) find that children learning to spell experience more difficulty with vowels than with consonants. Treiman and Baron (1981) observe that

grapheme-phoneme mapping depends on the position of the grapheme in the word. Stage and Wagner (1992) report a serial position curve when children in grades K-3 spell nonwords: letters at the beginning and end of words are spelled more accurately than letters in medial position. Stage and Wagner suggest that certain consonant cluster such as /dr/, /spl/ and final consonant clusters /rd/ and /lps/ are very difficult for children. Treiman (1993) finds that children frequently misspell in unstressed syllables.

In addition to studies by Stage and Wagner (1992) and Treiman (1993) which focus on intrinsic and context difficulties, other studies, based on phonemic awareness and early reading, reveal the positive effects of operationalized training in segmentation, blending, sound isolation and deletion (Adams, 1990; Ball and Blachman, 1991; Mann, 1991; Milina, 1991; Stanovich, 1992; Wagner and Rashotte, 1993; Yopp, 1988).

The dearth of research is particularly acute in reference to phonemic instruction and phoneme-grapheme mapping from Creole to English, consequently this article concentrates on two questions:

1. What phonemes are more difficult for speakers of Creole who are learning to speak English?
2. What is the effect of phonemic training on the achievement of Creole speakers who are learning to spell English?

Convincing evidence indicates that children who learn to read and spell well, form and learn sound-to-symbol habits which relate English phonemes to graphemes. Much of what is known about letter-sound rules is rooted in what is heard and how the listener reflects

upon the spoken word. Creole-speakers possess a particular entering behavior, a different set of phonemes; therefore, the researcher hypothesizes a modified learning set to accommodate the Creole-speaker in the bilingual classroom. This investigation seeks to discover the intrinsic and contextual difficulties for Creole-speakers and the effect of phonemic awareness on the achievement of beginning spellers.

Experiment I

In this first investigation there were 20 kindergarten children entering school for the first time and whose home language was Haitian Creole. The sample attended an elementary school (grades K-4), an early childhood center located near a Haitian neighborhood in a Southern city. The sample was trainied in blending, isolation, segmentation and deletion. Blending meant forming or sounding out of a word upon hearing each phoneme; segmentation required subjects to pronounce all phonemes of a word; isolation involved saying the first or last phoneme of a word; and deletion signified the removal of a phoneme from the beginning or end of a word to form a new word (Adams, 1990; Stahl and Murray, 1994). Furthermore, the investigator noted the incidence of errors in rime, onset and coda divisions in order to build a system of error repair. Phonemics, the description of functional sounds or phonemes, determined the correctness of all responses; the emphasis of this investigation rested upon how many and what sounds were pronounced.

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Method

Subjects.

This investigation employed an initial sample of 41 children of whom 20 participants agreed, with their parents' permission, to enter into this study (mean age of five years, seven months to six years, three months). To determine knowledge of reading and spelling, the investigator administered the WRAT-R (Wide Range Achievement Test, Revised), a measure of basic educational skills and standardized using a national stratified sampling model, grade ratings, and scaling and item analysis by Rasch method (Jastak, Jastak and Wilkinson, 1984). The mean achievement level for the sample was pre-first grade. All children spoke Haitian Creole as their first language. Subjects and parents were briefed about the nature of the investigation, the collection of data, and the confidential data reporting.

Procedure.

The researcher used a modified Test of Phonemic Awareness (Stahl and Murray, 1994), a measure of phoneme blending, isolation, segmentation and deletion in a posttest only design. Pre-training, by a Creole-speaking examiner, consisted of a series of 10 learning sessions (30 minutes each) in which subjects identified pictures of objects and pronounced initial, medial and final phonemes. Subjects learned to add, delete and move phonemes in words. Subjects participated in normal kindergarten activities when not in phonemic pre-training.

Results.

The data generated from the Test of Phonemic Awareness were analyzed using a one-way ANOVA. The levels were blending, isolation, deletion and segmentation. The means for levels were 2.5, 4.8, 2.25 and 1.5, respectively. The analysis indicated a significant difference, $F(3,76) = 88.06$, $p < .001$, MSerror = .46. The post hoc comparison test, the Tukey method, indicated a significant difference between isolation and the three remaining levels, blending and segmentation, deletion and segmentation, $Q(4,76)$, $p < .01$. Means were not significantly different for deletion and blending.

The data on linguistic complexity (C-, CVC or VCVC, CC- and -CC) generated means for four levels: 3.5, 3.0, 1.75 and 1.9, respectively. A one-way ANOVA was conducted to test the equality of the four levels. The analysis indicated a significant difference, $F(3,76) = 15.54$, $p < .001$, MSerror = .93. The multiple comparison test, the Tukey method, indicated a significant difference between onset (C-) and cluster onset(CC-), and cluster coda (-CC); between vowel coda (CVC and VCVC) and cluster onset (CC-), and cluster coda (-CC). There was no significant difference between onset and vowel coda, $Q(4,76)$,

Discussion.

The major question addressed in this investigation was: What were the linguistic and procedural errors by Creole-speaking children when trained in English phonemics? The first analysis of variance revealed that Creole-speaking children appear to

make more errors in segmentation, deletion, blending and isolation, respectively. This finding corresponded to Stahl and Murray (1994) in which subjects were trained in phonological tasks using real-word items. The analysis of variance on linguistic complexity revealed that subjects committed more errors in cluster onset and cluster coda. Stahl and Murray (1994) and Treiman, Berch and Weatherston (1993) reported that cluster onsets and cluster coda were more difficult for English-speaking subjects.

One important question left open by the results of Experiment I concerns the reasons why the tasks and linguistic complexity tests suggest levels of difficulty for subjects. Blending and isolation require less memory and association than deletion. Segmentation would demand additional memory to reassemble each word without forgetting a phoneme. The ease with which subjects repeat onsets is similar to isolation in which subjects say the first phoneme of a word: minimal reliance upon memory is required to isolate phonemes. Vowel coda words mirror Creole lexicon which consists of many basic mono- and bisyllabic words (Brenton, 1985). A cluster onset such as sp rarely occurs in Creole; however many Creole-speakers hear imperfectly two- and three-consonant clusters. Treiman (1993) found that English-speaking subjects experience real difficulty with consonant clusters, initial and final.

Another question that is left open by the result of Experiment I involves an inventory of difficult phonemes. The investigator finds that the letter r is particularly

troublesome, for subjects substitute the phoneme /w/ for r in girl and red. It is obvious that subjects tend to transfer Creole /w/ to English. Many subjects fail to pronounce wh in where and wh in who as well as th in three and th in the. Psycholinguistics reveal that children begin with global and simple distinctions between consonants, not attending to differences between audible variants or allophones. With development, children begin to divide and re-divide consonant and vowel phonemes into voiced and voiceless features, aspirated and unaspirated consonants, prevocalic and postvocalic /l/ (Slobin, 1969). The examiner carefully described and illustrated the manner and points of articulation for /r/, /hw/, /h/, /d/, /θ/ as well as vowel phonemes /U/ in look, /u/ in boot. These phonemes have pedagogical import to bilingual programs in which error repair occurs frequently.

Experiment II

In this second investigation, 10 Creole-speaking children were trained in blending, isolation, deletion and segmentation. Subjects also learned to pronounce syllables illustrating onset rime, vowel coda, cluster onset and cluster coda as in Experiment I. The pronunciation errors gleaned from Experiment I were incorporated into the pre-training sessions of Experiment II. The control group (also Creole-speaking) consisted of 10 randomly assigned subjects. The aim of this study was to determine the effect of phonemics on the achievement of Creole speakers who are learning to spell English.

Method

Subjects.

The initial sample of 20 subjects in kindergarten were randomly assigned by the investigator to one of two groups: experimental (phonemic training) and control. Each group consisted of 10 subjects and was administered the WRAT-R (Jastak, Jastak and Wilkinson, 1984). The mean achievement level for all subjects was pre-first grade. Subjects were volunteers and were briefed about data collection, confidentiality and reporting.

Procedure.

The investigator utilized the WRAT-R, Spelling as a means of measuring spelling achievement (Jastak, Jastak and Wilkinson, 1984). Each group was tested in spelling English. The experimental group was pre-trained in phonemic awareness for five hours in 10 training sessions of 30 minutes. The control group received normal instruction without phonemic training specific to Creole-speakers.

Results.

The data generated from the WRAR-R (Spelling) were analyzed using *t* tests for independent samples. Means for the experimental and control groups were 3.9 and 2.4, respectively. The anlaysis indicated a significant experimental effect, $t(18) = 3.75$, $p < .01$. The researcher concludesthat the experimental group with phonemic training scored higher on the spelling test.

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Discussion

The main question of Experiment II was: What was the effect of phonemics on the achievement of Creole speakers who are learning to spell English? The hypothesized parameter for this study was the difference between two sample means corresponding to an experimental group pre-trained in phonemics and a control group without phonemic training. The data from the WRAT-R (Spelling) were analyzed using the t-test; means for the experimental group exceeded those of the control group. The investigator concludes that phonemic training facilitates spelling. The results of this investigation support Castle, Riach and Nicholson (1994) who found that WRAT-R (Spelling) scores were significantly greater for the group trained in phonemic awareness.

The present investigation added the variable of another language, Creole, which implies that instructors need to know how learners simulate English phonemes. The impetus of the communicative act must emphasize comprehensibility and acceptable pronunciation. Instructors must help children practice phoneme-grapheme mappings in various tasks and combinations of vowels and consonants in various positions. The instructor points out errors and illustrates the manner and points of articulation in the oral cavity for Creole-speakers. Furthermore, children need phonemic training as an introduction to conventional spelling. Anglo and Creole-speaking children learn to manipulate cluster onsets and codas, onset rime and vowel coda as well as blending, isolation, segmentation and deletion.

Conclusion

The purpose of this study was to determine which phonemes were most difficult for Creole-speaking kindergartners who were learning English, and to investigate the comparative effectiveness of phonemic training versus traditional methods for Creole-speaking kindergartners in bilingual programs. Using a modified Test of Phonemic Awareness (Stahl and Murray, 1994) as a measure of phonemic awareness and applying a one-way ANOVA on tasks, and another one-way ANOVA on linguistic complexities, it was found that isolation, blending, deletion and segmentation were easier tasks, respectively. Onset rime was the easiest of the linguistic complexities, followed by vowel coda, cluster onset and cluster coda. An inventory of difficult phonemes experienced by Creole-speaking children ensued. The phonemes /r/, /hw/, /h/, /d/, /O/, /U/ and /u/ posed problems for subjects learning English. It was concluded that a set of activities and error repair techniques might have positive effects in bilingual classrooms.

Using a posttest-only design and applying a *t*-test for independent samples, it was found that the experimental group (pre-trained in phonemics) achieved significantly higher scores than the control group on the WRAT-R, Spelling.

There are theoretical and practical implications of the findings in this investigation. It is pedagogically advisable that Creole-speaking children develop an awareness of English phonemes before their attention is absorbed by morphology. Furthermore, mere knowledge of isolated phonemes may not predict

success in speaking and spellng English. The use of phonemic training may precede formal reading and spelling. The instructor must explain the phonemic system and employ error repair techniques by describing and illustrating points and manner of articulation in the oral cavity.

Recommendatins for Further Research

1. What is the effect of phonemics on the achievement of Creole-speaking adolescents who are learning to read and spell English?
2. What is the effect of Creole morphemics on the achievement of young Creole-speakers who are learning to speak, read and write English?
3. What are the problems with the interference of phrasally-bound morphemes or morphemes affixed after the noun in Creole?
4. What is the effect of the lack of a copula (the verb "to be") in some short phrases of location and attribution? Is there an analogy to Black Vernacular English?

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